PROGRAM: Living With Fire
MODULE: Off Campus - Greek

MODULE OVERVIEW:

In a residential setting, students often underestimate the danger of a fire and frequently make decisions that place themselves at risk. This module utilizes case analysis and two video presentations to demonstrate the potential of fire. Students will be exposed to a methodical step-by-step procedure to follow when an alarm or detector sounds or when a fire strikes in their residential setting. This knowledge can serve as a foundation level guide to reduce the danger. As such, this program should not be presented or constructed as a definitive source of fire related instruction. Based on the limited nature of this lesson plan it should be expanded and or adapted to address local needs.

GENERAL DESCRIPTION:

Living with Fire is a unique, student-centered project that seeks to determine and address the needs of the student relating to the dangers of fire in the college environment. As students, you must now be capable of independently making the correct choices that affect your ability to survive should a fire develop.

This program will establish a national source for college fire related information and produce a series of new activities, events and educational resources specific to the college student. If we are going to make a difference and reduce the tragic effects of fire, we need your candid conversation and honest input. During this focus group, please provide as much input and discussion when responding to a question or discussion. Your assistance will help us to create quality programs that will save lives.

This module seeks to provide students with an increased awareness relative to the danger of fire. As such this program should not be presented or constructed as a definitive source of fire related instruction. Based on the limited nature of this lesson plan it should be expanded and or adapted to address local needs.

DISCLAIMER:

This lesson plan may not address all of the issues, needs, requirements and policies of your college or university. It's objective is to provide a basis for the development of a lesson plan specific to your institution. The instructor MUST evaluate the relevancy of the information in this lesson plan to your local conditions and use it as a resource to modify as necessary to address local needs.

INTERNET REFERENCE SOURCES:

American Cancer Society
www.cancer.org

Campus Firewatch
www.campus-firewatch.com

National Electric Manufacturers Association
www.nema.org

National Fire Sprinkler Association
www.nfsa.org

NFPA International
www.nfpa.org

SimplexGrinnell
www.simplexgrinnell.com

United States Fire Administration
www.usfa.fema.gov

University of Texas System
www.utsystem.edu

PROGRAM: Living With Fire
MODULE: Off Campus - Greek

INSTRUCTOR TIME GUIDE:

This lesson should not exceed fifty minutes inclusive of practical activities.

- **25 minutes – overview of the limitations of fire extinguisher**
- **25 minutes – practical demonstration and student experience activities**

METHODS OF INSTRUCTION:

- **Lecture**
- **Illustration**
- **Practical activities and demonstration**
- **Video presentation**

RECOMMENDED MATERIALS, VISUAL AIDS & EQUIPMENT:

- **Computer for PowerPoint presentation**
- **Projection Screen**
- **PowerPoint presentation – assembled from materials located on the Living With Fire website such as photos from the Photo Library and video from the Live Burn**
- **Examples of items destroyed by fire**
- **Living With Fire student information bulletins**
- **Statistics from the NFPA (www.nfpa.org)**

LEARNING OBJECTIVES:

- **Provide the student with an overview of the increased risk of living off-campus in a fraternity or sorority.**
- **Provide the student with basic ideas that can improve their safety.**
- **Provide the student with recommended actions to take in the event of a fire.**
- **To inform the student of the potential effects of risk taking behaviors.**

INSTRUCTOR NOTES **TEACHING POINTS**

A. Case Studies

1. Amherst Massachusetts, October 2000 - An off-campus house where five students lived was severely damaged by a fire that occurred at approximately 10:00 p.m.

The building where the fire occurred was a two-story, wood frame structure. Either four or five students from the University of Massachusetts occupied it.

There were conflicting accounts of how the fire started. According to one report, the fire was caused when a student was attempting to use kerosene to refuel a Halloween decoration on the front porch. Another account was that the pumpkin ignited from the flame inside of it, and the fire spread to the porch.

It was reported that the occupants attempted to extinguish the fire, but were unsuccessful. They then left the front door of the house open, which allowed the fire to spread rapidly to the interior and up the stairway, which was immediately adjacent to the front door. The building was a total loss and was subsequently demolished.

2. A fire occurred in an occupied fraternity at Millikin University in Decatur, Illinois. The fire claimed the life of one male student.

The building where the fire occurred was a three-story wood frame structure with a brick veneer. It was about 60 to 70 years old, with a two-story addition that was built in the late 1960's. The structure had originally been built as a house and was converted into a fraternity sometime in the past.

The building was not equipped with an automatic fire sprinkler system.

The building was equipped with single station, battery-powered smoke detectors in each of the residence rooms. These detectors were replaced every year.

There was a fire alarm system in the building that would only sound a local alarm. It was equipped with detection in the common areas and not in the individual rooms. It was reported that at the time of the fire the alarm system was functional, but the audible devices had been silenced.

At the time of the fire, there were 20 people in the building.

It was reported that there were two means of egress throughout the structure. One was an interior stairwell that extended to the third floor. Another interior stairway extended two floors. The second means of egress on the third floor was onto an exterior deck where an exit ladder was located.

The stair that extended to the third floor was connected to a common room on the third floor, which was the area of origin for the fire. There was a door between the stairway and the common room, but it was open at the time of the fire. The door, which was a metal, fire-rated door, was not equipped with an

automatic door closer.

There were four residence rooms on the third floor. Two of the rooms were immediately off the common area where the fire occurred. One of the rooms was equipped with a hollow-core door between it and the common room, while the other had a solid wood door.

At the time of the fire, there were two people in two separate rooms off the common room on the third floor. Normally, there would be five occupants living in this area.

The fire started in an upholstered chair in the common room. The cause of the fire is officially undetermined, but fire officials speculated that it might have been started by careless disposal of smoking materials. The chair was located approximately eight feet from the room equipped with the hollow core door.

The fire extended from the chair and involved the contents in the common room, blocking any possibility of egress from the two residence rooms.

A passerby, who notified the fire department, detected the fire. However, this person did not know the exact address. He/she pounded on the front door of the fraternity to waken the occupants, and then was able to notify the fire department of the correct address.

The occupant in the room equipped with the solid wood door was awakened when the smoke detector in his room activated. Using a cellular telephone, he contacted the fire department and was in constant contact until the fire fighters rescued him.

It is unclear what actions the person in the room with the hollow-core door took. He normally slept in the top bunk, and he was found out of bed, approximately six feet into the room. The door between the residence room and the common room failed during the fire, letting smoke and heat extend into the residence room. According to the fire department, the fire was limited to the common room and did not extend into the residence room where the fatality occurred.

The cause of death was carbon monoxide poisoning.

3. A fire at the Tau Kappa Epsilon fraternity caused serious damage to the building. The building was a three and one-half story, ordinary construction structure. It was equipped with a fire alarm system that was comprised of system smoke detectors in common areas and single station smoke detectors in the bedrooms. The building had an occupancy of 67 people. At the time of the fire, there were 65 people, and a housemother, in the structure.

At 4:44 a.m., the Manhattan Fire Department received a call of a fire in the building. Upon arrival, the first units reported that there was smoke showing from the south and east sides of the building, with occupants exiting from all three floors. The occupants were not able to verify if everyone was out of the building, so crews immediately began search and rescue operations on all three floors.

INSTRUCTOR NOTES **TEACHING POINTS**

The fire department extinguished the fire. Fire damage was limited to the room of origin, with moderate to heavy smoke damage throughout the third floor.

According to official sources, three individuals occupied the room of origin. Two of the occupants were asleep when the third went to bed at 3:30 a.m. At approximately 4:40 a.m., this individual reported that he was having trouble breathing and he awoke to get a drink of water. When he returned to the room he observed a fire in the far corner of with heavy smoke in the room. He woke the occupants, one of whom attempted to unsuccessfully fight the fire with a fire extinguisher. They then exited the room and began knocking on doors to alert the other building occupants.

A manual pull station activated the building fire alarm system. The fraternity president silenced the fire alarm three times.

During the fire investigation, the fire department was unable to find evidence of a battery for the smoke detector. When they checked an adjacent room, the smoke detector in that room was missing its battery.

B. Attitude and perception

1. Public at large does not think that a fire will happen to them and students are no exception.
2. This often leads to complacency

C. Fire History in the college Environment

- 1700 fires per year in residence halls and Greek housing
- $2.8 million in damage per year.

D. What is Fire

1. Relevant examples of fire
2. Two types of fire – smoldering and flaming fire

E. The Fire Triangle – smoldering fire

1. Three essential ingredients:
   Oxygen – 21 % in normal air, fire burns until about 16% and then smolders
   Fuel
   Heat

F. States of fuel

A. Solid – paper, wood
B. Liquid - gasoline

INSTRUCTOR NOTES **TEACHING POINTS**

C. Gas – natural gas, propane

G. Fire Growth and development

1. Equilibrium - light a candle to show a fire in equilibrium

2. Rapid growth – show a Living with Fire Video segment available on the Living with Fire web site.

H. Where you live - Control over your life

1. Common hazards
2. Candles
3. Halogen lights
4. Space heaters
5. Extension cords
6. Don't ever use flammable liquids
7. Smoking materials represent not only a health risk but a fire risk**.**

I. What to do

1. Have a fire extinguisher or know where one is
2. Know how to get out – at least two exits
3. Evacuate when the alarm sounds
4. Sound the alarm and warn others
5. Once out stay out
6. Have a carbon monoxide detector

J. Control over your surroundings – fire prevention starts where you live.

1. Do not block open fire doors. These will stop the spread of smoke and fire from one area to another
2. Do NOT tamper with the fire alarm and the sprinkler systems. Not only will this make them useless, it may result in criminal violations
3. Do not use fire extinguishers for something other than what they are designed to do-put out a fire
4. Smoking is a leading cause of fire deaths across the country. Banning smoking can help to significantly reduce one of the leading causes of fire fatalities
5. If smoking is allowed, make sure that ashtrays are available.
6. After a party, make sure ALL cigarettes are properly discarded
7. It is critically important that fire sprinkler and fire alarm systems be properly maintained and operational at all times.

K. Occupant Awareness - How you live

Your actions may impact many

1. Housekeeping
2. Risk Taking behavior –partying – develop a designated person that

INSTRUCTOR NOTES **TEACHING POINTS**

will stay sober and check for fire after the party is over
3. Do not tamper with the fire sprinkler and fire alarm systems. They are life safety devices and may very well save your lives.

Actions to take:

1. When the alarm sounds – evacuate
2. When fire breaks out – warn others, sound the alarm, evacuate
3. When an unsafe condition is observed (such as covering the smoke detectors) – bring it to the attention of the entire group-and fix it!
4. Don't bypass detection or suppression systems
5. Don't get burned – detail fire cause statistics

L. Fire Detection & Suppression– What can you expect

1. Single station smoke detectors should be installed in all buildings at a minimum
2. Battery or 110 volt operated some fraternities and sororities have integrated alarm systems that alert the entire building ad call the fire department.
3. Often false alarms are due to improperly based on poor placement near a kitchen or bathroom. These situations can be corrected by properly locating the smoke detector-DO NOT disable or cover the smoke detector to solve the problem!
4. Myths and realities of sprinkler systems
5. Fight or flight - don't get burned

L. How Do You Survive?

- Know two ways to get out
- Test the door to see if it is hot
- Sound the alarm
- Warn others
- Don't ignore the alarm
- Don't go back in
- Crawl low in smoke if there is no other way out
- Once outside dial 911